DOCUMENT RESUME

ED 343 101 CS 010 875

AUTHOR Anderson, Valerie
TITLE A Teacher Development Project in Transactional Strategy Instruction for Teachers of Severely Reading Disabled Adolescents.
INSTITUTION Ontario Inst. for Studies in Education, Toronto.
SPONS AGENCY Ontario Dept. of Education, Toronto.
PUB DATE Dec 91
NOTE 28p.; Paper presented at the Annual Meeting of the National Reading Conference (41st, Palm Springs, CA, December 3-7, 1991). Best available copy.
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Adolescents; Cooperation; Educational Research; Foreign Countries; *Inservice Teacher Education; *Instructional Effectiveness; Instructional Innovation; Learning Disabilities; Models; *Remedial Reading; Secondary Education; Special Education; Teacher Improvement
IDENTIFIERS Transactional Teaching Style

ABSTRACT

A study examined the effects of a teacher development model designed to provide in-service special education teachers with collaborative transactional strategies for helping severely reading-delayed adolescents take a more active approach to understanding informational texts. The experimental group consisted of nine teachers and their students while the control group consisted of seven teachers and their students (for a total of 83 students in grades 6-11). All teachers were to explicitly teach reading comprehension for approximately 20 half-hour sessions spread over 3 months. Teachers in the experimental group received strategy training and peer support. Data consisted of transcriptions of pre-test, mid-study, and post-test videotapings of teaching sessions and pre- and post-standardized tests. A number of quantitative and qualitative analyses were performed on the data. Results indicated that: (1) experimental teachers and their students changed their behaviors substantially from pre- to post-test, while the control teachers and their students remained about the same; (2) there was a significant increase in student talk and a decrease in teacher talk in the experimental group; (3) both control and experimental students made substantial gains on standardized tests, with the experimental group making much larger gains in reading comprehension; (4) teachers in the experimental group became more flexible and relaxed in the methodology; and (5) administrative support is a necessary component in a successful intervention. Findings demonstrate the advantages of transactional strategy instruction for both teachers and students. (One table and one figure of data are included; two figures representing further analysis of the data and 38 references are attached.) (RS)

A Teacher Development Project in Transactional Strategy Instruction for Teachers of Severely Reading Disabled Adolescents

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A Teacher Development Project in Transactional Strategy Instruction for Teachers of Severely Reading Disabled Adolescents

Valerie Anderson
Centre for Applied Cognitive Science
The Ontario Institute for Studies in Education

This research was intended to test the effects of a teacher development model designed to provide in-service teachers with collaborative transactional strategies for helping severely reading-delayed adolescents take a more active approach to understanding informational texts. The teacher education model involved workshops conducted intermittently during application of the methodology, along with a procedure whereby teachers previously trained in a pilot version of the project (Anderson & Burtis, 1989) provided support for colleagues who were new to the approach. A primary purpose of the study was to investigate whether and how changes in teaching that indicated a more transactional teaching atmosphere resulted in related changes in students' performance during reading instruction.

BACKGROUND AND RATIONALE

Transactional Strategy Instruction

The past two decades of research on reading comprehension depict it as an active, constructive, cognitive and metacognitive process involving the interaction of reader and text (Palinscar, Ogle, Jones, Carr, & Ransom, 1985). This implies an expanded concept of the teacher's role in developing reading comprehension abilities. It is no longer enough to focus solely on the text and its meaning. Teachers must also convey the strategic mental activities behind the scenes in successful comprehension. Such teaching usually involves teachers' revealing their own thought processes in the act of reading (Bereiter & Bird, 1985; Duffy, Roehler, Silvan, Rackliffe, Book, Meloth, Vavrus, Wesselman, Putnam, & Bassiri, 1987).

The present project has been influenced by research on reciprocal teaching (Palinscar & Brown, 1984), strategy explanation (Duffy et al., 1987), student self-questioning (Wong, 1985), and expert reading strategies (Johnston & Afflerbach, 1985; Paris, Lipson, & Wixon, 1983). More directly, however, it grows out of an ongoing research program in our laboratory on text processing and intentional learning (Bereiter & Scardamalia, 1989).

Support for the teaching of strategies has grown substantially over the last ten years, with numerous studies showing its effectiveness. However, it is not without critics (e.g., DuCharme, Earl, & Poplin, 1989) and recent efforts have focused on identifying the strategies and related instructional characteristics that make it most effective (Haller, Child, & Walberg, 1988; Pressley, Goodchild, Fleet, Zajchowski, & Evans,

CS010875

Project support by an Ontario Ministry of Education Transfer Grant to the Ontario Institute for Studies in Education.
Paper presented at the National Reading Conference, Palm Springs, CA, 1991

1989; Rosenshine & Chapman, 1991; Rosenshine & Meister, 1991; Dole, Duffy, Roehler, & Pearson, 1991).

The research reported here has evolved to include many effective aspects of strategy instruction, such as group collaboration, opportunistic teaching, reading as problem solving, flexible strategy use, strategy combining, and the accessing and self-evaluation of students' existing strategies. Pressley, El-Dinary, Gaskins, Schuder, Bergman, Almasi, & Brown (in press) have made a distinction between earlier forms of strategy instruction and more current applications which they have called "transactional strategy instruction." While they describe a number of differences, the primary distinction involves the kinds of transactions or negotiations that occur among teacher and students and students and students while working together to determine text meaning; hence the term "transactional" [redacted] Instruction in the present study is unique in many ways because of the special student population for whom it is intended (over 75% of the adolescent students in the study had incoming reading levels of grade 3 or below) but, in general, the instruction fits the Pressley, et al. description.

A key idea in this research is the distinction between students' approaching learning as work to be finished versus approaching learning as a goal to be achieved through problem solving effort. This distinction cuts across notions of intrinsic versus extrinsic motivation and task involvement, and has been found to predict learning in various domains (Ng, 1988; Ogilvie & Steinbach, 1988). The need to focus on learning rather than task completion is especially important for poor readers, who have been characterized as passive (Torgeson, 1982; August, Flavell, & Clift, 1984) and teacher-dependent (Klein, 1989) learners. These students often believe that having a problem in reading is disgraceful and thus, are reluctant to bring their natural problem-solving abilities to bear on reading. Helping students to realize that recognizing and dealing with reading problems is a characteristic of good rather than poor readers is a major characteristic of the instruction in this research.

Teacher and students' sharing of reading problems is another feature of the instruction. Research on the positive effects of collaboration have become commonplace (e.g., Slavens, 1983). Salomon & Globerson (1989), however, have identified a number of problems that can arise in collaborative situations, such as the "free rider" and "sucker" effects, primarily related to differences among group members with regard to their views of their individual roles in the group and their views of the task. In this instruction, such problems are less likely to arise. The collaborative groups are made up of delayed readers with a variety of reading problems and strengths. There is a positive focus on revealing and treating problems as objects of inquiry to be shared, discussed strategically, and resolved by the group. Such a focus changes a negative view toward reading problems to a

positive one and seems to eliminate problems of status and lack of involvement.

Teacher Development

Assistance in content area reading is often given to adolescent poor readers through tutorials and other special classes. This is mainly intended to increase the literacy and thus, the retention of low-achieving adolescent students. Although these classes offer excellent opportunities for improving students' reading abilities, study skills, and content area knowledge, teachers may require special training in order to make good on these opportunities. In fact, there is evidence to suggest that unskillful handling of such sessions may actually increase student dependency, with the teachers drawn into the role of helping with immediate school tasks rather than promoting growth in reading and learning (Klein, 1989).

While little information is available as to the exact nature of these sessions, they are usually carried out by content area or other special teachers with students who have reading and study skills problems. The content of these sessions often represents repeated coverage of textbook material introduced in regular classrooms. Research into the nature of classroom discussion of content area texts is plentiful and generally shows that the most common, stable, and enduring mode of such instruction is recitation, in which teachers review, drill, and question their students about their reading assignments (Alvermann & Hayes, 1989; Goodlad, 1984; Hoetker & Ahlbrandt, 1969; Holton, 1982; Stodolsky, Ferguson & Wimpelberg, 1981). Informal discussions with secondary school teachers indicate that activities carried out in special content area classes are not substantially different from those carried out in regular classrooms and cover textbook material, homework, and tests. The purpose of the special classes is to help poorer students keep up with their schoolwork and, hopefully, continue in school, but there seems to be a focus on the students getting their school work done rather than on learning in these sessions.

In fairness, however, it must be asked what alternatives are available to the teacher? Few instructional interventions in reading comprehension have involved this student population (Leong, 1982). What's more, the idea of the teacher as a modeller and coach in the use of cognitive strategies is still so new that few teachers have received practical training in its application. Thus, there is an obvious need for inservice education, particularly in view of ongoing analyses and findings regarding strategy instruction.

The present view of teacher education involves a progressive shift of the teacher's attention. The first stage is to shift the teacher's attention from overt performance of tasks to the underlying comprehension processes. The next stage shifts from teacher questioning, modelling, and explaining to students

carrying out these processes. The final stage shifts from students' carrying out active processes under teacher guidance to their assuming that responsibility themselves. Teacher training in this study also has been updated to include the more effective aspects of strategy instruction mentioned earlier. Pressley (1990) recently singled out this project as being in the vanguard of teacher development in strategy instruction.

The research particularly investigates whether and how changes in teaching result in changes in students' performance during reading instruction. While direct connections between teaching and learning have been extensively investigated with more conventional teaching (Nuthall & Alton-Lee, 1991), less is known about these connections in strategy instruction.

Instructional Setting

The intervention involves explicit instruction for a group of experimental teachers and their students, and is compared with a more conventional instructional approach for a group of control teachers and their students. The instructional setting for the study is the small group reading session, in which the teacher works directly with students on the reading and understanding of informational text.

It was also required that student reading be oral throughout the sessions. Although teacher preferences for oral over silent reading have wavered over the years, the results of the research on which is most effective have been equivocal. Recently, however, Wilkinson, Wardrop, & Anderson (1988) re-analyzed important data that supported silent reading and found that, for beginning readers, problem readers, and readers engaged in reading difficult material, oral reading suggested a greater effect on reading achievement. Thus, oral reading was selected as a medium not only because it makes reading performance easier for teacher and students to analyze, but because it shows instructional promise for poor readers.

More specific aspects of the teacher education procedures are described under Intervention below.

METHOD

Participants

Recruitment of teachers and students. This was accomplished through a letter from the participating board of education explaining the general nature of the study and inviting teachers to volunteer. At the outset, ten experimental, ten control and seven peer support teachers were recruited for the study (with experimental and control teachers randomly assigned to conditions). However, unavoidable attrition of teachers and students over the course of the study resulted in nine experimental, seven control, and seven peer support teachers (two

of whom were assigned to more than one teacher in their own schools), for a total of 23 teachers, with data to be collected only on the experimental and control teachers and students. All of the teachers were experienced special education teachers. Student groups were the teachers' usual special withdrawal classes. Grades ranged from 6 to 11, for a total of 83 students in the experimental and control groups. All but a very few of the students had been diagnosed as learning disabled through an extensive IPRC process carried out by the participating board. Since these were all special education teachers, students groups were small, from two to ten students (approximately equal across experimental and control groups).

Materials for students. Discussions with teachers during recruitment strongly indicated that they preferred to have student texts provided for them. In order to provide a wide choice of texts and content areas for the reading sessions, texts were drawn and edited (primarily shortened) from a variety of "real text" sources. Open Court Publishing Company and Cricket Magazine were particularly helpful resources in that they gave permission to abridge and use many of their texts for the purposes of this study. A total of 135 single-page, expository texts, covering most content areas, were prepared. Since the intervention included a particular emphasis on identifying reading problems and sharing problem solving strategies, all texts were somewhat challenging so that problems would arise during reading (readability levels ranged from grades 2 to 8, with the majority of texts at grades 4 and 5). The titles of the texts made their contents reasonably clear, and it was left to teachers and students to decide which of the texts they wished to read during the approximately twenty reading sessions in which they would engage. Both experimental and control teachers were provided with the same set of texts.

Procedure

Pretesting. For baseline information on how the experimental and control teachers and their student groups ordinarily performed in reading sessions, each teacher was videotaped teaching reading to his/her students for approximately thirty minutes before the training of the experimental teachers began. To guard against possible text effects, two expository passages, similar in difficulty but different in content (one on mummies, another on sharks), were randomly assigned to teachers for use in the pretest. An impressionistic review of these sessions revealed that the teachers were quite similar in their approach to teaching reading. They usually began by introducing the passage briefly, proceeded to have students read the passage, helped students with difficult words by giving the words, and asked traditional sorts of comprehension questions at the completion of the reading. The student groups were generally well-behaved and cooperative, but answered questions in what might best be described as quite minimal ways.

Also before training began, all teachers administered three subtests of the Stanford Diagnostic Reading Test (phonics, structural analysis, and reading comprehension) The entire test was not given because, during the recruitment process, a number of teachers expressed disapproval of "overtesting" their students and decided that those subtests of the Stanford that actually required the students to read were the maximum that they would be willing to give.

Intervention. Experimental and control treatments were similar in that all teachers were to explicitly teach reading comprehension for approximately twenty half-hour sessions, spread over three months, using the informational texts provided. By making the experimental and control conditions similar in many ways, it was hoped that the control group would be a strong one and a rigorous test of the strategy instruction. The treatments differed in that only the experimental teachers received strategy training and peer support. The control teachers were told that they would receive similar training after the research data was collected. It is felt that the cooperation of the control group teachers was enhanced by the promise of future and equal training.

The training of the experimental teachers involved three afternoon sessions of three hours each, held at one month intervals while the teachers were conducting reading sessions with their students. The training module included the following elements and techniques:

1. Research involvement. Teachers were given the study procedures. To encourage teacher/researcher collaboration (Santa, 1988), the procedures were discussed at each training session, with problems aired and resolved. As in the pilot study, every effort was made to make teachers feel that they were a part of the development and evolution of the project.

2. Teaching shifts, videotapes, and self-evaluation. A set of twenty teacher shifts and twelve student shifts were presented to the teachers and used throughout the training for self-evaluation. The shifts represent changes that need to be made in order for more active reading to be fostered, e.g., a shift from focusing on right answers to focusing on how to arrive at answers, from teacher control of sessions to student/teacher collaboration, from ignoring reading errors to treating errors as problem solving opportunities, etc. This instrument first lists the ways in which teachers and students typically behave in remedial reading sessions, then provides a contrasting list of behaviours that characterize or promote active reading. Both typical and exemplary behaviours were drawn from research on and observations of teachers working with reading groups. The complete list of shifts for teachers and students is shown on the three pages of Table 1.

Although the teacher shifts were explicitly taught to and

applied by teachers during training, the student shifts were not expressly taught to the students. Many of the student shifts, however, mirrored the teacher shifts. Teachers were asked to keep an eye out for these changes in their students as a way of judging the effectiveness of changes in their teaching. For example, if the teacher was shifting from ignoring reading problems to treating such problems more openly, then he/she should begin to see the students handling problems more openly as well.

Experimental teachers were videotaped periodically throughout the study, with each teacher being taped at least three times: at pretest, in the middle of the study, and at the end of the study at posttest. At each training session, the teachers were shown positive instances of their own teaching and asked to evaluate them in the light of the shifts. As teachers accomplished some shifts, new ones were emphasized, so that training could be tailored to the immediate needs of the teachers. The teachers were not pushed, but were asked to work on those shifts with which they felt most comfortable, and to try new shifts when they felt they had handle on others. This required considerable judgement on the part of the teachers, but also gave them considerable choice, within the limits of the shifts. During self-evaluation, teachers also discussed and selected the shifts on which they felt they needed the most help and guidance from the first investigator and/or peer teachers. Perhaps the most important advantage of the shifts is that they gave the teachers a clear picture of the differences between how they usually taught and how they might implement change. It should be especially noted that teachers were never given the impression that their previous teaching had been poor, but rather that very recent research had provided some possible answers for improving the teaching of delayed readers.

3. Principles and techniques for fostering active reading. Teachers were given a set of principles for fostering active reading through reading instruction, with specific teaching techniques for each principle. Particular attention was given to procedures for making thinking explicit through thinking aloud, and for turning over the responsibility for this to the students. The training placed great emphasis on collaborative problem solving as well as on accessing, applying, and evaluating students' existing and alternative strategies. Thus, it differed considerably from traditional strategy instruction in which the teacher usually provides a predetermined strategy or set of strategies.

Another technique involved the upgrading of questioning by both teachers and students from content-specific questions to content-free, thought-provoking questions that stressed both the text-at-hand and reading in general, e.g., What is this about? What are the most important ideas in this? What did you find difficult? How did you try to figure that out? What did you learn from this article? What did you learn that will help you

read other things? Recent research by King (in press) strongly supports the use of such general and more transferable questions. Teachers were also given techniques for turning questioning and, indeed, the entire reading session over to their students. Further emphasis was placed on the value of increasing student talk and decreasing teacher talk during reading discussions (Alvermann, Dillon, & O'Brien, 1987).

4. Peer support. As mentioned above, each teacher was assigned a previously trained teacher for peer support. The advantages of peer coaching have been well documented (e.g., Watson & Kilcher, 1990), and the participating board included this project as a part of a larger peer support effort. Support teachers attended the training sessions and were available as needed for the experimental teachers.

Posttesting. Posttesting for the study provided the final and primary data for comparison. Posttest videotapings of the experimental and control teachers were identical to pretest except that each teacher taught the opposite passage to the passage that was taught in the pretest videotaping and the teachers were not given any time constraints. It is interesting to note that control teachers taught for a shorter time than at pretest, while experimental teachers taught for a longer time.

A second form the Stanford Diagnostic Reading Test was given, with teachers administering the same three subtests as they did at pretest.

RESULTS

Data consisted of transcriptions of pretest, mid-study and posttest videotapings of teaching sessions and pre and post standardized tests. A number of quantitative and qualitative analyses were performed on the data. These included quantitative analyses of (1) pre and posttest teacher and student performance related to active reading as shown in the videotape transcriptions, (2) pre and posttest teacher and student verbal participation as shown in the same transcriptions, and (3) pre and post standardized test raw scores. Qualitative analyses were carried out to determine (1) the nature of teacher change over the course of the intervention, (2) the differentiated effects of peer support, and (3) individual differences among experimental teachers. Each of these analyses will be described below.

Quantitative Analyses

Videotaped session results. Throughout this quantitative analysis, the teacher was the primary unit of analysis. When students were judged, they were judged by group and as a group rather than individually.

A rating scale was developed using the teacher and student shifts as a base. Items on the lists of shifts were collapsed

where possible, then selected on the basis of their importance to the methodology and their potential for being recognized by a rater in a written transcription. Some shifts, such as a focus on learning rather than simply on interest, were felt to be too subtle for a rater to identify. The final rating scale required a rater to judge the performance of each group of students on eight dimensions: treating reading problems openly, focusing on how to solve problems, expressing thinking, asking questions, giving elaborated answers, taking the teacher role, focusing on group collaboration, and being involved in the reading session. Teachers were to be rated on fourteen dimensions, the first seven of which mirrored the students' ratings: treating reading problems openly, focusing on how to solve problems, providing models of thinking, teaching question asking, asking thought-provoking questions, allowing student control, focusing on group collaboration, informing students of learning, focusing on text and learning about reading, setting reading goals before reading, problem solving during reading, summarizing to check comprehension, reflecting on reading goals after reading, and stressing new learning from text. It was hoped that the experimental teachers would show gains on all of these dimensions, and, as a result, their students would especially show gains on the related or mirrored dimensions.

The pre and posttest videotapes were transcribed from audiotapes and the audiotapes checked against the videotapes for accuracy. The transcriptions were coded and two raters were trained who performed blind independent ratings on the transcriptions. Teachers and students on a given transcription were rated separately. For each dimension, raters were asked to decide what percentage of the opportunities for that dimension were taken up by the teacher and students. For example, given opportunities to treat reading as a problem solving process, what percentage of those opportunities was so utilized. Ratings were expressed in percentages from 0 to 100 percent.

Interrater reliability for each of the dimensions was examined by means of Pearson correlations. Results showed that the raters were highly reliable with regard to which teachers and students had gained, lost or stayed the same from pre to posttest on all of the dimensions. They were slightly less reliable in terms of the exact amounts of those gains and losses on only four of the shifts measured. As a result, ratings were combined for further analysis.

The change score (posttest score minus pretest score) for each dimension was examined by a t-test in order to assess the significance of the changes. Mean scores on each dimension for both teachers and students from the control and experimental groups are shown on the two pages of Figure 1. The results are very highly significant in favour of the experimental group on all dimensions ($p = < .01$, or less), with the control group actually showing losses on most dimensions. The mean experimental gains on the dimensions are large ones (from 26 to

80 percent), while the control losses are smaller (less than 1 to 12 percent). It is clear, however, that the experimental teachers and their students changed substantially from pre to posttest, while the control teachers and students remained about the same. It was predicted that teacher gains on the mirrored shifts would result in concomitant student gains, and this was the case. As the experimental teachers gained, so did their students. By contrast, as the control teachers showed losses, their students did as well. Non-parametric tests were also carried out on the data with similar results favouring the experimental group.

Teacher and student verbal participation. Alvermann, Dillon, & O'Brien (1987) have suggested that decreased teacher talk and increased student talk may be a reasonable measure of student involvement and increased learning in a reading discussion. Taking session time and group size into account, a t-test was used to determine the significance of any change in the percentage of teacher and student talk from pre to posttest session. There was a significant increase in student talk and a decrease in teacher talk that again favoured the experimental group. The increased student talk supports the earlier finding of increased student involvement. A closer examination of the transcriptions revealed that experimental teachers greatly decreased talk that predetermined what students were to say, but that the increased student participation also seemed to increase teachers' tendencies toward overly exuberant praise and repetition of student responses. Control teacher talk, on the other hand, stayed about the same from pre to posttest in quality and quantity.

Standardized test results. A similar analysis of pre and posttest standardized raw scores showed no differences between the experimental and control students on the phonics and structural analysis subtests of the Stanford. This is not to say that the students did poorly. On both tests, about 50% of all of the students made gains of a half year or more, an unusual result for students of such low reading abilities over such a short time (three months). It is felt that both experimental and control teachers focused heavily on decoding and word problems in the direct instructional sessions and that this resulted in substantial gains for both groups. The reading comprehension subtest, however, showed that significantly more experimental students made gains, with approximately 50% of the control group and 80% of the experimental group gaining. The results for both groups again speak well for any form of direct instruction in informational text, but also indicate that the transactional strategy training may be more effective for text comprehension in that it helps teachers to go beyond decoding problems and to focus on text meaning in more productive and transferable ways.

A less successful attempt was made to link standardized test gains with videotape analysis gains. While there is no clear connection between the videotaped teaching and the standardized

test items, it was felt that some attempt should be made to determine whether those teachers and students who gained the most on the shift dimensions also showed the greatest standardized test gains. Both experimental and control groups were ranked according to their pre to post changes on the subtests of the standardized test and on overall shifts. There was little relationship, except in the area of phonics where the experimental teachers with the greatest increases in phonics scores showed the greatest shift gains as well. There was no apparent connection between higher reading comprehension scores and shift gains. However, the three very lowest performing control teachers on the shifts analysis also showed the greatest standardized test losses on all subtests. Inasmuch as the connections between the two types of tests and analyses are so hazy, these faint results are not actually surprising.

Qualitative Analyses

The nature of teacher change. A qualitative study was carried out to determine how experimental teachers changed with time and training. Pre, mid, and posttest transcriptions of the reading sessions of four randomly selected experimental teachers were studied (more will be reported on the progress of teachers in the study by Roit during this symposium).

At midfilming, the teachers showed strong evidence of changes related to the implementation of their training, but those changes were strongest in the aspects of training that can most readily be routinized, e.g., asking questions to set reading goals, having students skim, summarizing while reading, and asking what was learned after reading. Perhaps because neither teachers nor students felt ready, there was little evidence that the teachers were willing to be opportunistic and flexible in their use of strategies or that they were willing to allow students to take control of the learning in a session. Further, they were not attempting to access the students' existing strategies and provided most of the strategies for the students.

At posttest filming, a different pattern began to emerge. The teachers were much more flexible in their use of strategies, there was more problem solving occurring during the reading of a passage, students were more often asked to express their own strategic efforts, and students were more in control of their own learning, including taking over the procedures for the entire session. It seems reasonable to conclude that teachers become more flexible and relaxed in the methodology with more practice and as they see improvement in their students. Control teachers were not filmed during the study, but their pre and posttest filmings indicated that they had made no substantial changes in their teaching.

Peer support. While it was not possible to measure the effect of the peer support directly, some impressionistic conclusions may be drawn. While the experimental teachers as a

group were quite strong, three of the nine teachers were not as strong as the others. One of the characteristics of two of these teachers was that they had little or no contact with their peer support teachers. Further, the strongest teachers either were peer taught by the heads of their departments or had peer teachers within their own rather than nearby schools.

Individual differences among teachers. Individual teachers' scores on the active reading dimensions were examined to determine individual differences among the experimental teachers. Of the nine teachers involved, six gained in nearly all or all of the active reading dimensions. Of the three teachers who were weaker on these changes, two had done substantially fewer sessions (twelve or less) than any of the experimental or control teachers due to staffing and time constraints, and the third had no peer support and little school administrative support, for example, she had to work with her students in out-of-school time. All three of these teachers tried very hard, but were unable to completely overcome the administrative obstacles. They provide further evidence that administrative support is a necessary component in a successful intervention.

Individual shift changes were also studied to determine whether some shifts might be generally more difficult for teachers to make than others, for example, that changing the nature of traditional questioning, turning control over to students, or treating problems openly might be particularly formidable goals for teachers to accomplish. On the contrary, the data indicated that the teachers were highly individualized in which shifts they found easier or more difficult to make.

CONCLUSIONS

The results of this study clearly show the advantages of transactional strategy instruction for both teachers and students. The intervention was short and successful.

For the teachers, the training module was designed to be sensitive to teachers' input, involvement, personal choices, and general comfort zones, but it also provided teachers with strong, specific, and ongoing guidance and support. In addition to the outstanding results, the consequences of this type of training were that the teachers involved were active, interested, and cooperative.

On the basis of teacher input through the study of the videotapes, informal conversations, and comments at training sessions, conclusions can also be drawn about how teachers involved in this teacher development model grow with their students. There seems to a be three-stage process. At first, teachers wish to know just how to get started in order to do an adequate job of implementing the training, a sort of first things first approach. Next, teachers want a set of routines or default options that they can count on from session to session with a

strong emphasis on relevance to reading and reading instruction. This seems to fulfil a need for something that will work when all else fails. And finally, as teachers become more comfortable and practised in the method, they begin to be more spontaneous, flexible, and collaborative with their students.

For the students, the strong shift gains indicate that, indeed, changes in teacher behaviour are reflected in their students. The gains in student involvement and willingness to acknowledge reading problems and attempt to solve them demonstrate that such instruction can help to diminish some of the passivity and resistance often found in adolescent poor readers.

Table 1

Teacher Shifts Towards Fostering Active Reading Strategies and Intentional Learning

From	To
1. Focuses on smooth and error-less reading by the students; treats wrong answers as errors to be corrected.	1. Welcomes reading problems and treats them as problem solving opportunities--as objects of inquiry.
2. Focuses on and provides "right" answers.	2. Focuses on <u>how</u> <u>to</u> arrive at answers.
3. Asks content-based and experience-based questions that apply only to the passage at hand.	3. (a) Teaches students to ask questions. (b) Asks content-free, thought provoking questions that can apply to many passages.
4. Focuses primarily on students' interests, assuming that learning will take place.	4. Focuses primarily on what students are learning while keeping their interests in mind.
5. Focuses on what students already know.	5. Focuses on new learning.
6. Teaches a strategy in the same way even after students have mastered it.	6. Upgrades strategy use so that students are continually learning to use a strategy in more complex ways.
7. Models answers.	7. (a) Models thinking. (b) Encourages and allows students to model thinking.
8. Maintains control of what is to be learned.	8. Lets students take control of what is to be learned.
9. Does most of the hard thinking during a reading session.	9. Teaches students to do the hard thinking during a reading session.
10. Emphasizes getting work done and reading finished.	10. Emphasizes learning from what is read and learning about reading.

Table 1 (continued-2)

From	To
11. Does not inform students as to the purpose of the reading session.	11. Tells students what they will be learning and why it is worth learning.
12. Focuses primarily on learning the content of what is read.	12. Focuses on reading and learning to read.
13. Avoids teaching during actual reading.	13. Teaches during reading to help clarify difficulties and ensure understanding.
14. Begins reading by asking questions or telling about the text.	14. Begins reading by having students skim to form their own impressions and set their own goals.
15. Begins session with motivators; ends session with questions.	15. Begins session with goal setting and predictions; ends session by returning to goals and predictions.
16. Decides which words and ideas in a text will be difficult, then asks or tells students about them.	16. Teaches students to determine difficult words and ideas.
17. Focuses primarily on individual performance and success.	17. Focuses primarily on group collaboration.
18. Teaches a particular strategy with any passage.	18. Fits the strategy to the passage at hand.
19. Encourages homogeneity in the group so that everyone can show the same accomplishments.	19. Encourages different abilities within the group so that students can share ideas and talents.
20. Presents only easy material.	20. Presents challenging material.

V. Anderson, CACS, OISE

Table 1 (continued-3)

Student Shifts Toward Active Reading and Intentional Learning

From	To
1. Participates in reading when interested in the topic at hand.	1. Participates in reading to learn new information and ideas.
2. Avoids reading difficult or unfamiliar material.	2. Tries to read difficult and unfamiliar material.
3. Focuses on his/her own participation in reading sessions.	3. Focuses on collaborating with the group in reading sessions.
4. Avoids or ignores reading errors.	4. Reveals and investigates errors in reading.
5. Directs effort toward getting right answers.	5. Directs effort toward explaining how to arrive at right answers.
6. Depends on the teacher to determine what is to be learned.	6. Attempts to take on the role of the teacher.
7. Answers questions.	7. Asks questions.
8. Reads without reaction to text.	8. Reacts to text.
9. Follows the teacher's models.	9. Provides models for others.
10. Gives briefest possible responses.	10. Gives elaborated responses.
11. Focuses on getting the reading finished.	11. Focuses on learning from the reading.
12. Avoids thinking.	12. Seeks challenges in thinking.

Mirrored Shifts
Students and Teachers

Figure 1

Gain Scores (pre to post) on Teacher and Student Shifts

	Shift	Experimental (9) Mean (%)	S.D.	Control (7) Mean (%)	S.D.	t (df=14)	p
1.	T: Treat reading problems openly	65.00	22.36	-12.86	18.45	7.44	.000
	S: Treat reading problems openly	49.44	25.30	- 1.42	6.27	5.27	.000
2.	T: Focus on how to solve problems	61.11	27.59	-10.00	23.27	5.46	.000
	S: Focus on how to solve problems	48.89	26.67	- 3.57	5.56	5.08	.000
3.	T: Provide models of thinking	61.11	30.49	- 6.42	11.07	5.55	.000
	S: Express thinking	45.00	28.28	- 5.71	7.31	4.59	.000
4.	T. Teach question asking	57.22	39.70	-11.43	29.11	3.83	.002
	S: Ask questions	42.78	31.34	- .71	12.05	3.46	.004
5.	T: Ask thought-provoking questions	48.33	22.46	- 5.00	11.55	5.71	.000
	S: Give elaborated answers	26.67	26.81	- 7.88	19.76	2.85	.013
6.	T: Allow student control	48.33	32.02	- 1.43	15.74	3.75	.002
	S: Take teacher role	50.56	33.40	- 2.86	5.67	4.15	.001
7.	T: Focus on group collaboration	48.33	34.00	- 5.71	8.38	4.08	.001
	S: Focus on group collaboration	46.67	35.27	- 5.71	7.32	3.84	.002

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Non-mirrored Shifts
Students or Teachers

Figure 1 (continued)

Gain Scores (pre to post) on Teacher and Student Shifts

Shift	Experimental (9)		Control (7)		t (df=14)	p
	Mean (%)	S.D.	Mean (%)	S.D.		
8. S: Involvement in session	33.33	27.16	-13.57	16.76	4.00	.001
9. T: Inform students	46.67	22.91	-10.71	25.89	4.62	.000
10. T: Focus on text and learning about reading	60.56	30.35	- 9.29	25.07	4.91	.000
11. T: Set reading goals before reading	80.56	17.58	-14.29	30.00	7.93	.000
12. T: Problem solve during reading	66.67	16.20	0.00	7.07	10.10	.000
13. T: Summarize to check comprehension	55.00	40.70	-12.14	30.26	3.64	.003
14. T: Reflect on reading goals after reading	53.33	40.40	- 5.71	13.05	3.70	.002
15. T: Stress new learning from text	59.44	38.36	-12.14	19.97	4.47	.001

Anderson

Further Analyses for NRC Paper, Palm Springs, 1991

Additional analyses were conducted on the data. Each transcribed pre and post reading session was divided in to teaching incidents. An incident is defined here as any discreet problem or question that warranted an interchange between teacher and students that went beyond simply reading the text. A single teacher or student given question would constitute an incident including all of the student and teacher input related to that question. A mispronounced word would also constitute an incident if the teacher gave the correct word or if students worked together to figure it out. Two blind independent raters judged each incident as to whether it involved true strategic problem solving that included collaboration between teacher and students or students with other students. There was nearly perfect reliability between raters on these judgements.

Figure 1, which follows, shows the percentage of teaching incidents in each transcription (percentage of the total incidents in that transcription) that involved problem solving and collaboration. Experimental teachers overall showed a far greater percentage of problem solving incidents at post test than at pretest. Controls overall showed a loss at post. The figure shows each teacher's individual percentage.

Since only experimental posttest transcriptions showed any substantial amounts of problem solving incidents, only that group was studied in a further analysis. Figure 2 shows a breakdown of what was being taught in those incidents. There were 140 such incidents in the nine experimental posttests. The percentage of the incidents that involved each of 10 aspects of reading are shown.

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Figure 1

Percentage of teaching incidents involving problem solving and/or collaboration

Experimental Teachers	pre	post
Ex 1	.00	.43
Ex 2	.13	.77
Ex 3	.04	.26
Ex 4	.04	.31
Ex 5	.00	.32
Ex 6	.017	.02
Ex 7	.00	.00
Ex 8	.02	.35
Ex 9	.11	.59
Mean	.038	.338
Control Teachers		
C 1	.04	.06
C 2	.14	.07
C 3	.04	.01
C 4	.06	.01
C 5	.00	.00
C 6	.17	.02
C 7	.00	.00
Mean	.064	.024

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Figure 2

Problem solving/collaborative incidents--Reading characteristics breakdown....Experimental posttest transcriptions only. Percentages of 140 incidents.

1.	Figuring out a word by sounds, parts, rhyming, visual memory, and/or context	.45
2.	Explaining text meaning through summarizing, retelling, elaborating, or looking back	.19
3.	Student questioning	.07
4.	Word meaning	.06
5.	Reading in general, discussions about learning about reading	.06
6.	Goal setting: skimming, find out goals, predicting	.05
7.	Background information	.04
8.	New learning, future applications	.04
9.	Fluency	.02
10.	Opinion/inference	.02

1, 4, & 9 might all be considered word level	.53
The rest are considered comprehension focused	.47

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REFERENCES

Alvermann, D.E., Dillon, D.R., & O'Brien, D.G. (1987). Using discussion to promote reading comprehension. Newark, DEL: International Reading Association.

Alvermann, D.E., & Hayes, D.A. (1989). Classroom discussion of content area reading assignments: An intervention study. Reading Research Quarterly, 24, 305-335.

Anderson, V., & Burtis, P.J. (1989, April). Fostering intentional learning in read-aloud sessions with learning disabled adolescents. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

August, D.I., Flavell, J.H., & Clift, R. (1984). Comparison of comprehension monitoring of skilled and less skilled readers. Reading Research Quarterly, 20, 39-53.

Bereiter, C., & Bird, M. (1985). Use of thinking aloud in identification and teaching of reading comprehension strategies. Cognition and Instruction, 2(2), 131-156.

Bereiter, C., & Scardamalia, M. (1989). Intentional learning as a goal of instruction. In L.B. Resnick (Ed.). Knowing, learning, and instruction: Essays in honor of Robert Glaser (pp. 361-392). Hillsdale, NJ: Lawrence Erlbaum Associates.

Dole, J.A., Duffy, G.G., Roehler, L.R., & Pearson, P.D. (1991). Moving from the old to the new: Research on reading comprehension instruction. Review of Educational Research, 61, 239-264.

DuCharme, C., Earl, J., & Poplin, M.S. (1989). The author model: The constructivist view of the writing process. Learning Disabilities Quarterly, 12, 237-242.

Duffy, G.G., Roehler, I.R., Silvan, E., Rackliffe, G., Book, C., Meloth, M.S., Vavrus, I.G., Wesselman, R., Putnam, J., & Bassiri, D. (1987). The effects of explaining the reasoning associated with using reading strategies. Reading Research Quarterly, 22, 347-368.

Goodlad, J.I. (1984). A place called school. New York: McGraw-Hill.

Haller, E.P., Child, D.A., & Walberg, H.J. (1988). Can comprehension be taught? A quantitative synthesis of "metacognitive" studies. Educational Researcher, 17(9), 5-8.

Hoetker, J., & Ahlbrandt, W.P. (1969). The persistence of

recitation. American Educational Research Journal, 6, 145-167.

Holton, S.M. (1982). Secondary education. In H.E. Mitzel (Ed.), Encyclopedia of Educational Research: Vol. 4 (5th ed.) (pp. 1683-1696). New York: The Free Press.

Johnston, P., & Afflerbach, P. (1985). The process of constructing main ideas from text. Cognition and Instruction, 2(3 & 4), 207-232.

King, A. (in press). Enhancing peer interaction and learning in the classroom through reciprocal questioning. American Educational Research Journal.

Klein, L.S. (1989). Instructional interactions that encourage learning disabled students' dependency on teachers. Unpublished master's thesis, University of Toronto, Toronto.

Leong, C.K. (1982). Promising areas of research into learning disabilities with emphasis on reading disabilities. In J.P. Das, R.F. Mulcahy, & A.E. Wall (Eds.) Theory and research in learning disabilities. New York: Plenum.

Ng E. (1988, April). Three levels of goal-directedness in learning. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Nuthal, G.A., & Alton-Lee, A. (1991, April). Making the connection between teaching and learning. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.

Ogilvie, M., & Steinbach, R. (1988, April). The development of skill across domains: The role of learning strategies. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Palinscar, A.S., & Brown, A.L. (1984). Reciprocal teaching of comprehension-fostering and comprehension-monitoring activities. Cognition and Instruction, 1(2), 117-175.

Palinscar, A.S., Ogle, D.S., Jones, B.F., Carr, E.G., & Ransom, K. (1985). Facilitator's manual for teaching reading and thinking. Alexandria, VA: Association for Supervision and Curriculum Development.

Paris, S.G., Lipson, M.Y., & Wixon, K.K. (1983). Becoming a strategic reader. Contemporary Educational Psychology, 8, 293-316.

Pressley, M. (1990, November). Contemporary issues in literacy design. Paper presented at the annual meeting of the

National Reading Conference, Miami Beach, FL.

Pressley, M., El-Dinery, P., Gaskins, I., Schuder, T., Bergman, J., Almasi, J., & Brown, R. (in press). Direct explanation done well: Transactional instruction of reading comprehension strategies. Elementary School Journal.

Pressley, M., Goodchild, F., Fleet, J., Zajchovski, R., & Evans, E.D. (1989). The challenges of classroom strategy instruction. The Elementary School Journal, 89, 301-342.

Rosenshine, B., & Chapman, S. (1991, April). Scaffolding in successful intervention studies in question generation. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.

Rosenshine, B., & Meister, C. (1991, April). Ten experimental studies which used reciprocal teaching. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.

Salomon, G., & Globerson, T. (1989). When teams do not function the way they ought to. International Journal of Educational Research, 13, 89-98.

Santa, C.M. (1988). Changing teacher behavior in content area reading through collaborative research. In S.J. Samuels & P.D. Pearson (Eds.). Changing school reading programs. Newark: DEL: International Reading Association.

Slavens, R. (1983). Cooperative learning. New York: Longman.

Stodolsky, S.S., Ferguson, T.L., & Wimpelberg, K. (1981). The recitation persists, but what does it look like? Journal of Curriculum Studies, 13, 121-130.

Torgeson, J.K. (1982). The learning disabled child as an inactive learner: Educational implications. Exceptional Education Quarterly, 1, 45-52.

Watson, N., & Kilcher, A. (1990). Peer coaching: A review of the literature and a glimpse of Ontario practice. Toronto: Ontario Secondary School Teachers' Federation.

Wilkenson, I.A., Anderson, R.D., & Pearson, P.D. (1988, April). Silent reading: A best-evidence synthesis. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Wong, B.Y.L. (1985). Self-questioning instructional research: A review. Review of Educational Research, 55, 227-